AC

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF ILLINOIS
EASTERN DIVISION

FILED

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JUDGE HARRY D. LEINENWEBER
U.S. DISTRICT COURT JUDGE

JVI, Inc., an Illinois Corporation,

Plaintiff,

v.

UNIVERSAL HOLDINGS, INC., an Illinois Corporation, d/b/a UNIVERSAL FORM CLAMP; INN CONNECT LLC, a Florida Liability Company; and RATEC LLC, a Florida Limited Liability Company

Defendants.

Case No. 05 C 5385

Hon. Harry D. Leinenweber

MEMORANDUM OPINION AND ORDER

Plaintiff JVI, Inc. (hereinafter, "JVI") alleges that Defendants' Universal Holdings and Ratec LLC, (hereinafter collectively, "Universal") are infringing United States Patent No. 6,185,897 ("the '897 Patent"). Before the Court are JVI's and Universal's *Markman* briefs for claim construction as to the meaning and scope of several disputed claims of the '897 Patent.

I. BACKGROUND

Precast concrete is widely used throughout the building industry. It typically forms structures within buildings and bridges, including columns, beams, floors, and walls. Precast concrete members include a common and widely applied element, known as a "double tee" design. The double tee concrete member generally

has a load-bearing surface and includes two overhanging edges, known as flanges, and two joists or supports. The concrete is formed with a reinforced mesh embedded into the center of the slab. The double tee members are laid side by side so that the flanged edges abut each other. The flange connectors, historically made of a faceplate and a pair of extending legs at approximately 45 degree angles, are then welded together.

JVI invented an improved flange connector design in order to avoid problems generated by the welding of the connectors. One problem was that when the connectors were welded, the heat caused the faceplates on the flange connectors to expand. When the faceplates expanded, their legs shifted causing cracks in the concrete.

Another problem with the conventional faceplates was their inability to compensate adequately for vertical shear forces in both upward and downward directions because both legs were positioned either above or below the reinforced mesh. If the legs were placed above the reinforced mesh, upward forces could force the flange connector to break out of the concrete. In order to absorb shear forces in both downward and upward directions, under JVI's patent, one leg of the flange connector may be placed below the reinforced mesh while the other leg is placed above it.

II. ANALYSIS

A. Legal Standard

Claim construction is a matter of law reserved for the Court. See *Markman v. Westview Instruments, Inc.*, 517 U.S. 370 (1996). "[O]nly those terms need to be construed that are in controversy, and only to the extent necessary to resolve the controversy." *Viv Techs., Inc. v. American Science & Engineering, Inc.*, 200 F.3d 795, 804 (Fed. Cir. 1999). Claims are "construed without regard to the accused product," and are interpreted through the lens of a "person of ordinary skill in the field of the invention." *See Jurgens v. McKasy*, 927 F.2d 1552, 1560 (Fed. Cir. 1991); *Multiform Dessicants, Inc. v. Medzam, Ltd.* 133 F.3d 1473, 1477 (Fed. Cir. 1998).

To ascertain the meaning of a patent claim, the Court looks first to the intrinsic evidence, which consists of the language of the claim, the specification, and if in evidence, the prosecution history. *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996). "Words in a claim are generally given their ordinary and customary meaning." *Id.* However, "a patentee may choose to be his own lexicographer and use terms in a manner other than their ordinary meaning, as long as the special definition of the term is clearly stated in the patent specification or file history." *Id.* Thus, because "[t]he specification acts as a dictionary when it expressly defines terms used in the claims or when it defines terms by implication," it "is always highly

relevant to the claim construction analysis." *Id.* Usually, it is dispositive and the single best guide to the meaning of the disputed term." *Id.*

B. Claims

As a preliminary matter, the parties' initial briefs included discussion of certain phrases from claims that the parties anticipated would be challenged by their opponent. As it turns out, some of the claim phrases raised in the opening briefs were not contested, and thus the Court will address only those phrases included in the parties' responsive briefs.

The '897 Patent contains nine claims. Claims 1 and 6 are independent. All of the disputed terms arise in Claims 1 and 6.

1. Claim 1

> A flange connector comprising:
>
> a central faceplate, said faceplate having a longitudinal axis;
>
> a first and second opposing faceplate return, each said faceplate return extending from said central faceplate at approximately ninety degree (90°) angles from said faceplate;
>
> a first and second flattening bend, said first flattening bend extending from said first opposing faceplate return and said second flattening bend extending from said second faceplate return;
>
> a first and second embedded leg, said first embedded leg extending from said first flattening bend and said second embedded leg extending from said second flattening bend, each said embedded leg being positioned in a plan substantially perpendicular to said

faceplate and substantially parallel to said longitudinal axis of said faceplate, said flattening bends angled between said faceplate return and said embedded legs to enable said embedded legs to be positioned in the plane and to allow said flange connector to flex under shear and tension forces.

a. "a first and second opposing faceplate, each said faceplate return extending from said central faceplate at approximately ninety degree (90°) angles from said faceplate;

JVI argues that the phrase should be interpreted as "two faceplate returns extending from opposite ends of the faceplate, each of the faceplate returns forming an angle of approximately 90° degrees with the faceplate." Universal originally argued that the phrase requires two limitations: (1) opposing faceplate returns that extend from the central faceplate, which returns are a different structure than the flattening bends/embedded legs; and (2) that the opposing faceplate returns extend from the central faceplate at approximately a 90° degree angle from the faceplate, where the angle is the outer angle formed between the faceplate and the return. Contrary to Universal's original assertions regarding a different structure, the '897 patent refers to a "onepiece" steel member. The Court need not address this argument, however, because Universal abandons it in its Response stating that the returns are simply separate elements.

Therefore, the dispute is whether the 90° degree angle is the outer angle formed between the faceplate and the return. JVI argues that the claim does not mention inner or outer angles.

Likewise, neither the specification nor the prosecution history mentions inner or outer angles. Universal argues that since the claimed angle is formed between the faceplate and each return, it must be either the inner angle or the outer angle between the two claim elements. Since the angle is 90° whether one measures the inner or outer angles, there does not appear to be a real disagreement on this phrase of the claim. Thus, the Court accepts JVI's definition because it is more in line with the plain meaning of the claim's words.

b. "a first and second flattening bend, said first flattening bend extending from said first opposing faceplate return and said second flattening bend extending from said second faceplate return;

JVI's proposed construction is: first and second flattening bends that extend from the opposing faceplate returns. Universal proposes the phrase should be interpreted to require (1) that the flattening bends extend from opposing faceplates returns and (2) that the first flattening bend extends from the upper portion of the first faceplate return, and the second flattening bend extends from the lower portion of the second faceplate return.

In support of its proposed construction, Universal argues that throughout the specification, including the abstract, the figures, the summary of the invention and description of the preferred embodiment, only one description of the invention is given. That description is a configuration where one flattening bend extends

from the upper portion of a faceplate return and the other flattening bend extends from the lower portion of the opposing faceplate return. Additionally, the specification refers to the configuration as the "present invention." In the specification, the inventor also distinguished the invention from other faceplates where both legs are either upward to downward. '897 Patent, Col.2, ll. 19-27. Thus, Universal argues, the configuration is not the preferred embodiment, but the only embodiment. *See Honeywell Intern., Inc. v. ITT Industries, Inc.*, 452 F.3d 1312, 1318 (Fed. Cir. 2006).

JVI argues that Universal attempts to impermissibly import a limitation from the specification into the claims. It does not dispute that the preferred embodiment described in the '897 patent has one flattening bend that extends upward and one that extends downward. However, JVI argues that the preferred embodiment is merely one way to practice the invention. Further, JVI argues, the language of Claim 4 proves that such a limitation should not be imputed to Claim 1. Claim 4 is expressly limited to flange connectors in which one of the flattening bends extends from the upper portion of the return and the other extends from the lower portion. Aside from this limitation, Claim 4 is identical to Claim 1. Thus, JVI argues, Universal's construction violates the claim differentiation doctrine, which states that one should not read limitations of a dependent claim into an independent claim

when doing so would render the dependent claim superfluous. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1315 (Fed. Cir. 2005).

The patent construction doctrine of "claim differentiation" refers to a presumption that an independent claim should not be construed as requiring a limitation added by a dependent claim. *Curtis-Wright Flow Control Corp. v. Velan, Inc.*, 438 F.3d 1374, 1379 (Fed. Cir. 2006). Although claim differentiation serves as a guideline, rather than a rule, the Federal Circuit has noted that it works best when dependent claims show a distinction over a related independent claim. *Id.* ("Indeed the statute stresses that a dependent claim must add a limitation to those recited in the independent claim."); *see also, Fiber Optic Designs, Inc. v. Seasonal Specialities, LLC*, 172 Fed. Appx. 995, 999 (Fed. Cir. 2006); *Fantasy Sports Properties, Inc. v. Sportsline.com*, 287 F.3d 1108, 1115-16 (Fed. Cir. 2002). In this case, the only distinction between Claim 1 and Claim 4 is the limitation in Claim 4 that the first bend extends from the upper portion of the first return and the second bend extends from the lower portion. Thus, reading this limitation into Claim 1 would make Claim 4 superfluous. As a result, the Court accepts JVI's interpretation of this disputed phrase.

c. "each said embedded leg being positioned in a plane substantially perpendicular to said faceplate and substantially parallel to said longitudinal axis of the faceplate;"

JVI proposes the following construction of this phrase: "each embedded leg is positioned in a plane sufficiently perpendicular to the faceplate and parallel to the longitudinal axis of the faceplate to permit significant flexing under vertical shear and tension forces." Universal proposes, "the terms 'substantially perpendicular' and 'substantially parallel' mean that the legs need not be exactly perpendicular and parallel; a slight degree of leeway is allowed. These terms are not defined in terms of serving a function, *i.e.*, permitting significant flexing under vertical and shear tension forces."

The parties agree that "substantially perpendicular" and "substantially parallel" do not require the legs to be exactly perpendicular and parallel. The parties disagree, however, as to how much leeway is permitted. JVI argues that the amount of leeway permitted is enough to permit significant flexing under vertical shear and tension forces.

Universal disagrees with JVI's definition to the extent that JVI defines the phrase in terms of a function. Universal argues that the functional language of Claim 1 is directed at the flattening bends not the legs. It contends that the bends are angled to meet two functions: (1) to enable the embedded legs to be positioned in a plane; and (2) to allow said flange connector to flex under shear and tension forces. It is the angling of the flattening bend that allows for the flexing of the flange

connector, not the perpendicularity or parallel relationship of the embedded legs. Universal argues that throughout the specification, the inventor describes the flexing functionality as related to the flattening bends.

The summary of the invention states that "the principal object of the present invention is to provide a flange connector that absorbs the shear force occurring in both the upward and downward directions and allow the flange connector to flex such that any failure in the connection is a ductile failure that can detected through an inspection of the joint." '897 Patent, Col. 2, ll. 41-48. The summary of the invention goes on to describe the design of the present invention that is used to "[t]o achieve these objectives. . . ." '897 Patent, Col. 2, ll. 55-; Col. 3, ll. 10. Contrary to Universal's assertion, the functional language is not limited to the design of the flattening bends, but includes the design of the embedded legs. Thus, the Court accepts JVI's interpretation of this phrase.

d. "said flattening bends angled between said faceplate return and said embedded legs to enable said embedded legs to be positioned in the plane and to allow said flange connector to flex under shear and tension forces."

Universal proposes "one of the flattening bends extends from the upper portion of the faceplate return, and the other flattening bend extends from the lower portion of the faceplate return. To the extent [JVI] defines substantially perpendicular to the face

plate and parallel to the longitudinal axis in terms of a function, Universal disagrees. The Court finds that the specification does not limit the functional language to the flattening bends. In addition, the Court finds that under the doctrine of claim differentiation, Claim 1 does not require that one of the flattening bends extend from the upper portion of the faceplate return and one extend from the lower. Thus, consistent with the other disputed phrases, it accepts JVI's interpretation of this phrase.

2. Claim 6: A flange connector comprising:

> a face plate, said faceplate having a longitudinal axis and having returns extending from sides of each face plate that are angled to allow the face plate to expand under extreme heat;
>
> at least two embedded legs that extend from said face plate such that the legs initially extend away from said face plate at an angle and then flatten out in a plane substantially perpendicular to the face plate and substantially parallel to said longitudinal axis of said face plate.

a. "said faceplate having a longitudinal axis and having returns extending from the sides of each face plate that are angled to allow the faceplate to expand under extreme heat."

Universal contends that the phrase should be interpreted to require (1) opposing faceplate returns that extend from the central faceplate; and (2) that the opposing faceplate returns extend from the faceplate at an approximately 90° angle from the faceplate,

where the angle is formed between the faceplate and each return. JVI contends that the phrase should be interpreted as two face plate returns extending from opposing ends of the face plate at an angle that allows the faceplate to expand when exposed to extreme heat (such as welding) without causing significant distress to the concrete in which the flange connector is embedded.

As both parties recognize, unlike Claim 1, Claim 6 does not state that the faceplate returns extend at approximately a 90° degree angle from the faceplate, but defines the angle in terms of a function, specifically an angle that allows the faceplate to expand under extreme heat. JVI argues that the language allows for a broader construction of the angle, any angle that is sufficient to allow such expansion. Universal contends that the specification, including the summary of the invention and the description of the preferred embodiment, does not support such an interpretation because the only angle disclosed to perform the function is a 90° degree angle. Because only a single description of the invention is discussed, Universal contends that the description amounts to a limitation to the scope of the claim. *Honeywell*, 452 F.3d at 1318.

JVI contends that the phrase should be given its plain and ordinary meaning. Heat generated by welding causes the faceplates of flange connectors to expand. When conventional flange connectors are embedded in concrete, the faceplates cannot expand

without causing significant distress to the concrete. Thus, JVI contends that its definition clarifies that the returns are angled to allow the faceplate to expand without causing distress. JVI contends any other limitation proposed by Universal is not supported by the claim language. The preferred embodiment described should not be imported as a limitation to the claim.

The Court agrees with JVI's interpretation. Claim 6, unlike Claim 1, does not name a specific angle but defines the angle in terms of function. Universal's proposed language would result in a narrower interpretation of the claim than its language requires. *See Pilant Corp. v. MSC Marketing & Technology, Inc.*, 416 F.Supp.2d 632, 639-40 (N.D. Ill. 2006).

> *b. "at least two embedded legs that extend from said faceplate return such that the legs initially extend away from said faceplate return at an angle and then flatten out in a plane substantially perpendicular to the faceplate and substantially parallel to said longitudinal axis of said faceplate."*

Universal contends that the phrase should be interpreted in line with its arguments for Claim 1. Namely that the one embedded leg extends from the upper portion of one of the faceplate returns and the other extends from the lower portion of the other faceplate return. In addition, the terms "substantially parallel" and "substantially perpendicular" mean that the legs need not be exactly perpendicular and parallel, a slight degree of leeway is

allowed. However, the terms are not defined in terms of serving the function of permitting flexing.

The Court construes this phrase consistently with the similar phrases contained in Claim 1. As stated above, the functional language contained in the specification is not limited to the design of the flattening bends, but includes the design of the embedded legs. Thus, the Court accepts JVI's interpretation of this phrase.

III. CONCLUSION

For the reasons stated herein, the Court accepts JVI's interpretation of the disputed terms in Claims 1 and 6 and the above claim construction is hereby entered.

IT IS SO ORDERED.

Harry D. Leinenweber, Judge
United States District Court

Dated: November 29, 2006